SOFTWARE REQUIREMENTS SPECIFICATION

for

Blood Forum

Version 1.0

Prepared by

1. MOHIT BURNWAL (M210689CA)
2. MUKESH PATEL (M210705CA)
3. NUPUR BHAGAT (M210658CA)
4. PANDRANKI SANTOSH KUMAR (M210699CA)
5. PRAKASH SINGH (M210677CA)

Course: CS3095D-DataBase Management System Laboratory

Date: 08.09.2023

Contents

1 Introduction

The Online Blood Forum Project is a pioneering initiative driven by the vision to bridge the gap between blood donors and those in need within our community. This Software Requirements Specification (SRS) document lays the foundation for the development of an innovative online website designed to streamline and enhance the blood donation process.

1.1 Intended Audience and Reading Suggestions

This SRS is intended for the following Individuals:

- **Developers -** They get a clear technical view of the whole project and precise knowledge of the implementation, functioning, and intercommunication of all modules. This aims to impart to the developer the knowledge of the current project and the roadmap of future developments.

- **Software Testers -** They can get an understanding of various modules and their use cases and this will serve as a guide for testing.

- **Hospitals -** Hospitals can organize blood camps to facilitate the donors. Also, they can update the blood group which is currently available in their hospital.

- **Donors -** Donors can donate their blood according to their group by selecting a camp organized by any nearby hospital.

- **Blood Recipient -** They can search for the blood group they require by entering necessary details like blood group, address etc.

The SRS is Organized in following way:

1. **Section 1** includes a brief introduction to the Online Blood Forum Website, along with some other points such as purpose, intended audience, project scope, acronyms and abbreviations used document conventions and references.
2. **Section 2** includes subsections such as product overview, product functionality, design, and implementation constraints, and operating environment.
3. **Section 3** includes brief content on specific requirements, specific to Hospitals, Donors and Blood Recipients.
4. **Section 4** provides non-functional requirements that cater to the successful handling of the implemented system.

1.2 Product Scope

This online website aims to make the process of Blood Donation simple, minimalistic and hassle-free. To achieve the above-mentioned aim, we need to implement a system that is easy to use, accessible with no specific technical knowledge, and efficient in delivering its functionality. Hospitals can organize blood camps and can also maintain the available blood in their respective hospitals. Donors can donate their blood by selecting a particular blood camp organized in their respective locality. Blood recipients can search for the blood group they need.

1.3 Definitions, Acronyms and Abbreviations

SRS	Software Requirement Specification
HTML	Hypertext Markup Language
CSS	Cascading Style Sheet
DB	Database
MLA	Modern Language Association

1.4 Document Conventions

This subsection follows Modern Language Association (MLA) conventions. Bold-faced emphasize section and subsection headings.

1.5 References and Acknowledgments

1. https://developer.mozilla.org/en-US/docs/Web/HTML
2. https://developer.mozilla.org/en-US/docs/Web/CSS

2 Overall Description

2.1 Product Overview

This project aims to develop a web application that goes by Online Blood Forum. This project can save time and benefit the hospitals, blood donors and blood recipients in numerous ways. It helps hospitals by providing a platform to organize a blood camp where different blood donors can donate blood. It helps the recipients to search the particular blood group they need etc.

2.2 Product Functionality

- User Registration (Hospitals and Donors).
- User Login (Hospitals and Donors).
- Hospitals can organize blood camps.
- Hospitals can also view current/previous organized camps.
- Blood donors can donate blood by selecting a particular blood donation camp.
- Blood donors can also view their previous history.
- Blood recipients can search the blood group they need.

2.3 Design and Implementation Constraints

This website will take minimum time to load with minimum requirements. This website app must smoothly run on different hardware and operating systems with highly responsiveness. The user must get the information fast and accurately from this project.Also consider the security and privacy issues of the Hospitals and the Donors. Maintain a huge collection of data on the requirements, hospital details, and other logs in the database. Backup of the database at regular intervals may be a constraint. The website was developed using HTML, CSS and JavaScript.

2.4 Operating Environment

- Windows (7 or Superior)
- Linux (Ubuntu 10 or Superior / any other Linux-based OS)
- MacOS (MAC OS X 10.0 or Superior)
- Android

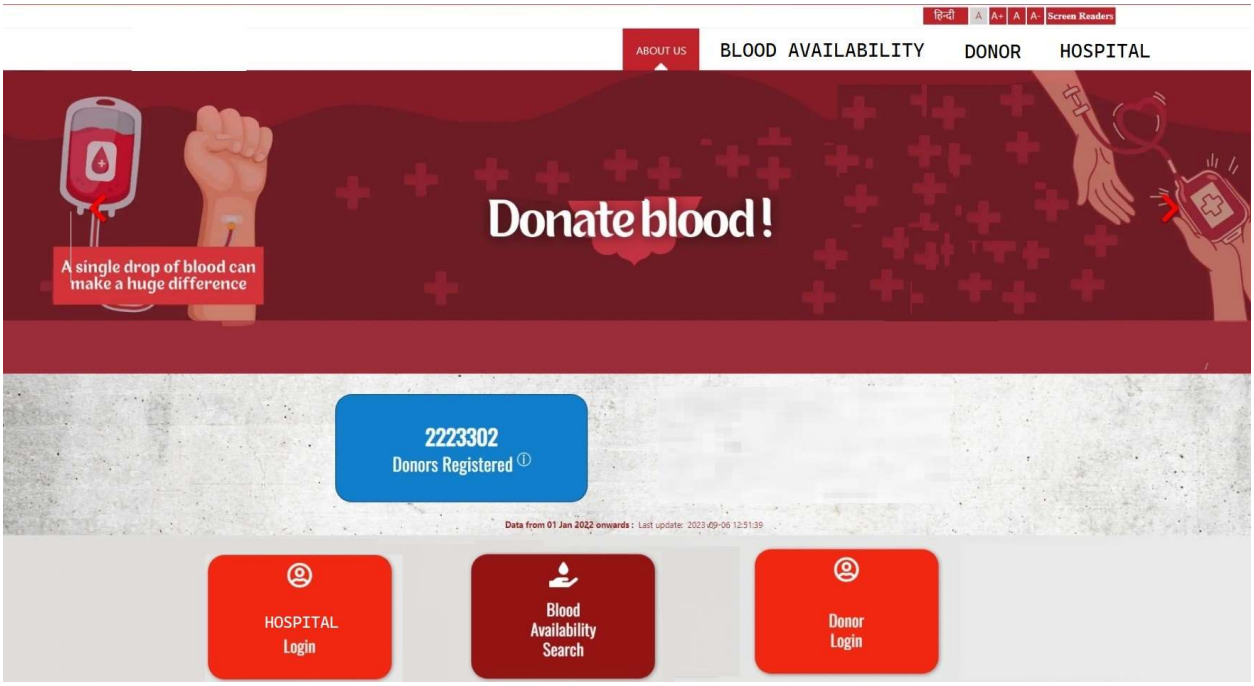
Software Components: Any web browser with a JavaScript engine. With an internet facility.

3 Specific Requirements

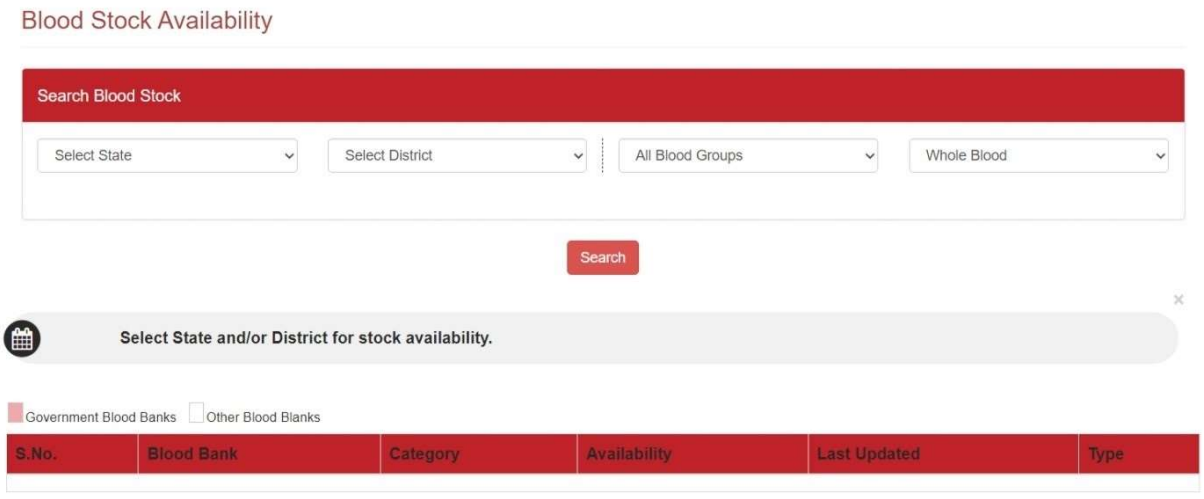
3.1 External Interface Requirements

3.1.1 User Interfaces

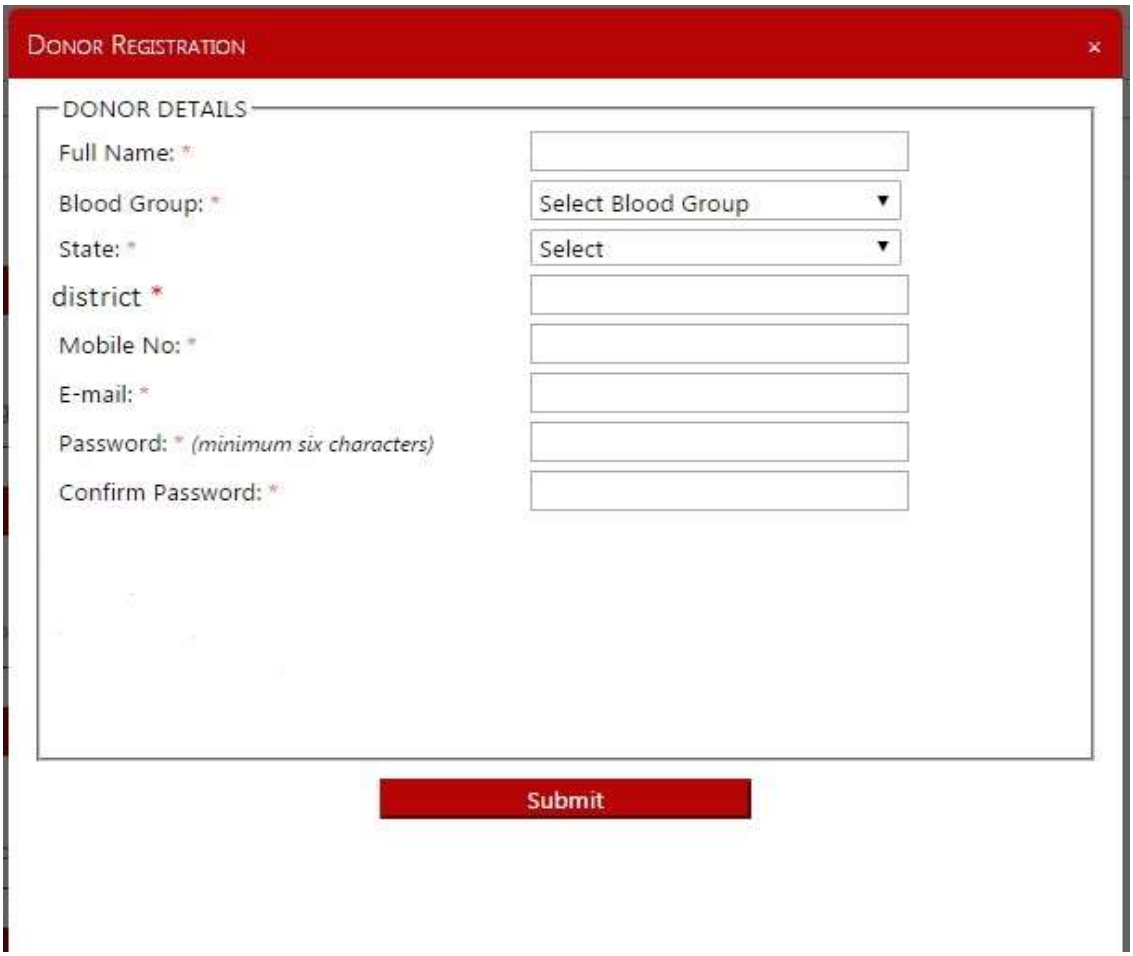
A .HOME PAGE



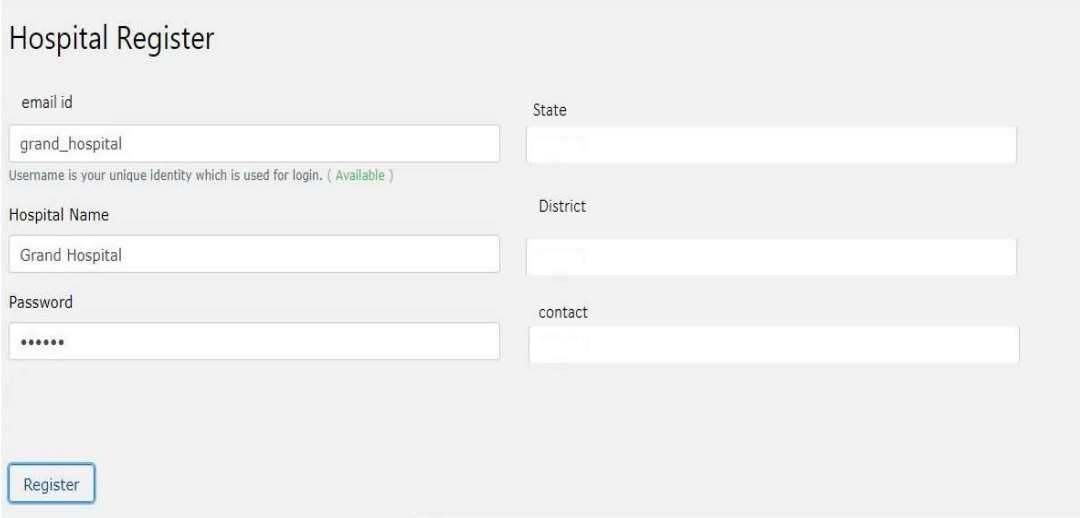
B. Blood availability Search



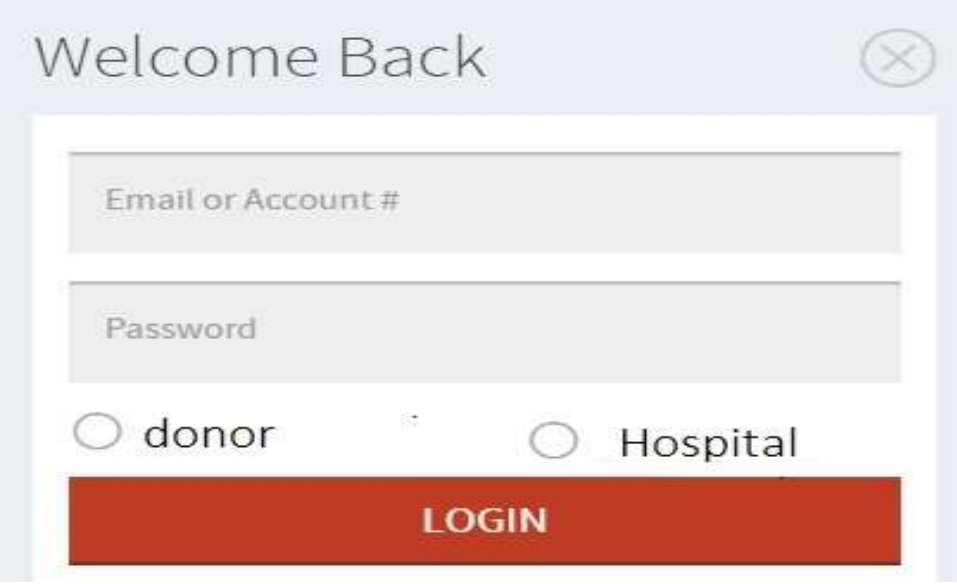
C. Donor Registration


DONOR REGISTRATION
DONOR DETAILS
Full Name: *
Blood Group: *
Select Blood Group
State: *
Select
district *
Mobile No: *
E-mail: *
Password: * (minimum six characters)
Confirm Password: *
Submit

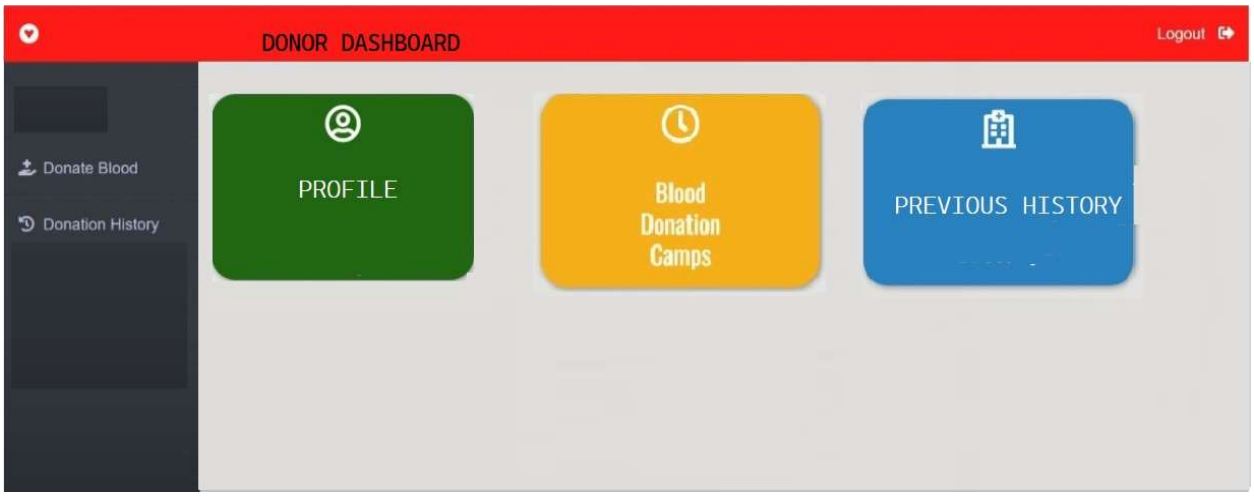
D. Hospital Registration



E. Donor /Hospital Login

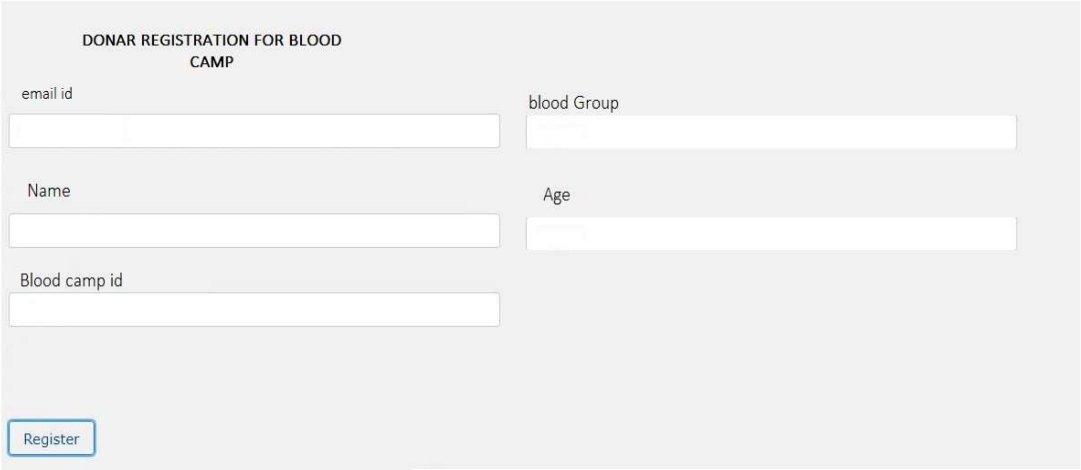


F. Donor DashBoard



G. Hospital DashBoard

H. Donor Register at camp for donating blood



3.1.2 Hardware Interfaces

The application has a website interface and therefore requires capable hardware that supports the latest web browser and is required to be connected to the internet.

3.1.3 Software Interfaces

This website is compatible with all operating systems i.e., Windows, Linux, Mac, etc. Software requirements include a web browser coupled with a good internet connection. It contains all the databases for the mentioned requirements and Databases as stated in ER diagrams.

3.2 Functional Requirements

A. Hospital

1.Hospitals can register and login into the system.
2.Hospitals can create new blood camps.

3.Hospitas can fetch donor’s details.
4.Hospitals can update profiles.

B. Donor

1.Donors can register and login into the system.
2.Donors can donate blood at nearby available camps.
3.Donors can check previous history.
4.Donors can check for blood availability also.

C. Guest User

1.Guest user can check for blood availability (no need of registration or login.

4 Other **Non-functional Requirements**

4.1 Performance Requirements

- Response time: The time it takes for the system to respond to user requests, such as loading pages or performing actions. This should be as fast as possible to ensure a smooth user experience.
- Concurrent user capacity: The number of users that can access the system at the same time without experiencing slowdowns or errors.
- Data storage: The amount of data the system can store, including donor login, hospital login, blood status, camps, and activity logs.
- Data retrieval: The speed at which the system can retrieve and display data, such as blood availability in hospitals present in your district.
- Backup and recovery: The ability to backup and restore data in case of system failure or data loss.
- System availability: The percentage of time the system is available and accessible to users.
- Scalability: The ability of the system to handle an increasing number of users and activities such as creating new camps.

4.2 Safety and Security Requirements

- Access control: The ability to restrict access to the system to authorized users only, such as donors and hospital staff members, and to control their level of access and permissions.
- Authentication: The ability to verify the identity of users before granting access to the system, such as through the use of email-id and password.
- Data encryption: The ability to encrypt sensitive data, such as Donors personal information and activity logs, to protect it from unauthorized access or data breaches.
- Data backup: The ability to regularly backup data to protect against data loss in case of system failure or other issues.
- Incident management: The ability to detect and respond to security incidents, such as unauthorized access attempts or data breaches, in a timely and effective manner.
- Penetration testing: the ability to perform regular testing of the system to identify and address any vulnerabilities.

4.3 Software Quality Attributes

- Usability: The ease with which users can learn, navigate, and use the system.
- Reliability: The ability of the system to perform its intended functions without failure and to produce accurate results.
- Scalability: The ability of the system to handle an increasing number of donors, hospitals, camps and activities as the organization grows.
- Maintainability: The ease with which the system can be modified, updated, or maintained over time.
- Security: The ability of the system to protect against unauthorized access, data breaches, and other security threats.
- Performance: The speed and efficiency of the system in handling requests and processing data.

- Flexibility: The ability of the system to adapt to different types of users, devices, and environments.

5 Implementation

5.1 Home Page:
On the Home Page the users can search for the availability of the blood in their locality with respect to their state and district or blood group.

5.2 Sign Up Page:
All the Donors and Hospital need to register their account by providing the details to access their respective functionalities.

5.3 Login Page:
Two different separate login pages for both the Donors (Registered User) and Hospital/ organization in which they provide their respective login credentials to access their respective functionalities. Successful login redirected to their respective dashboard.

Donors:

5.4 Search for Blood Camp:
Once the Donors logged in, they can search for the blood camp with respect to their state and district. Then the system provides a list of all the hospitals conducting the blood camp.

5.5 Register on A Blood Camp:
After searching for the Blood camp, they can register themselves to donate the blood to that hospital by providing the necessary details.

5.6 Edit Profile/ Check History:
Donors can check their history and can edit their details.

Hospitals:

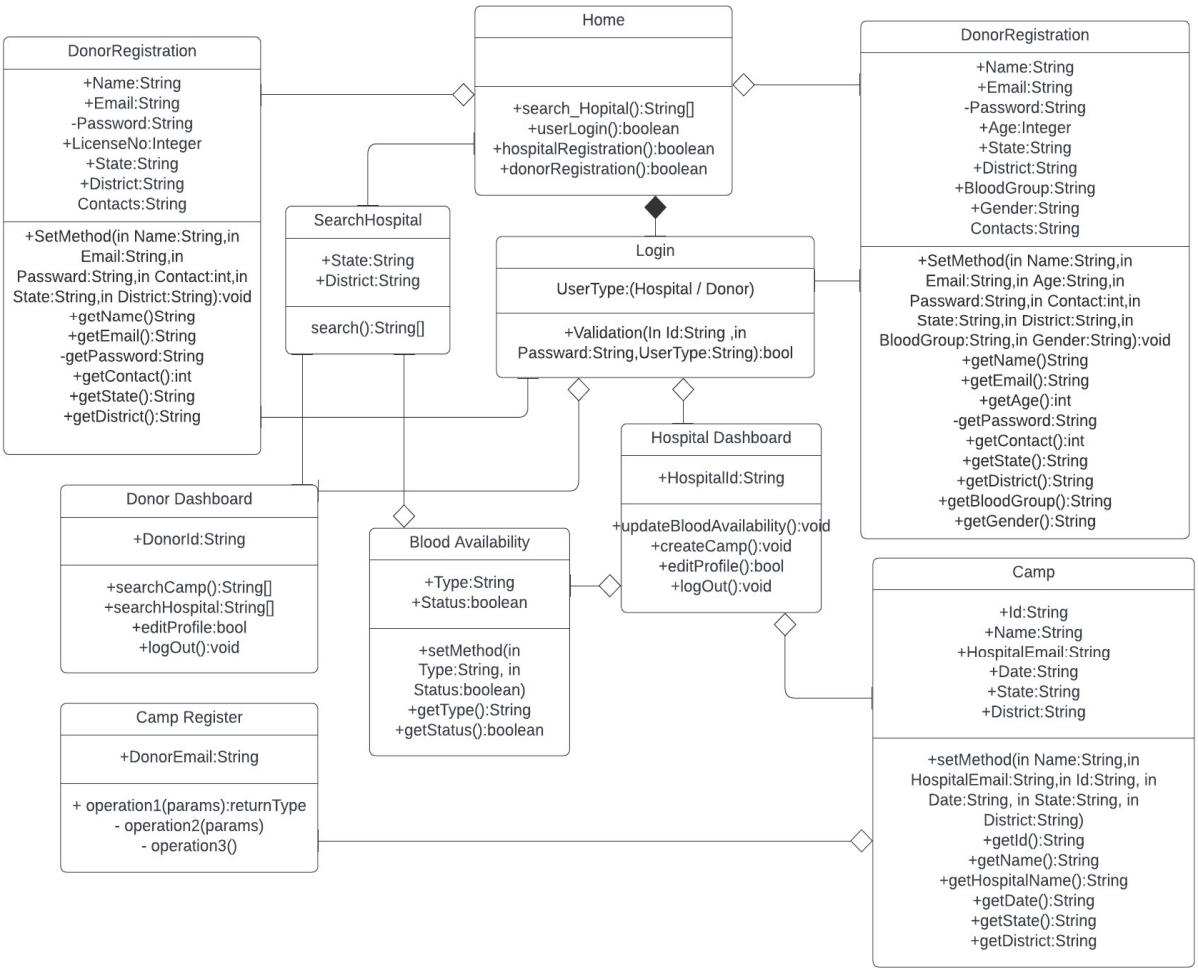
5.7 Add New Blood Camp:
Hospitals can add new blood camps and make it available to all the users.

5.8 Fetch Donors Details:
Hospitals can view the details of all the Donors who registered on their blood camps.

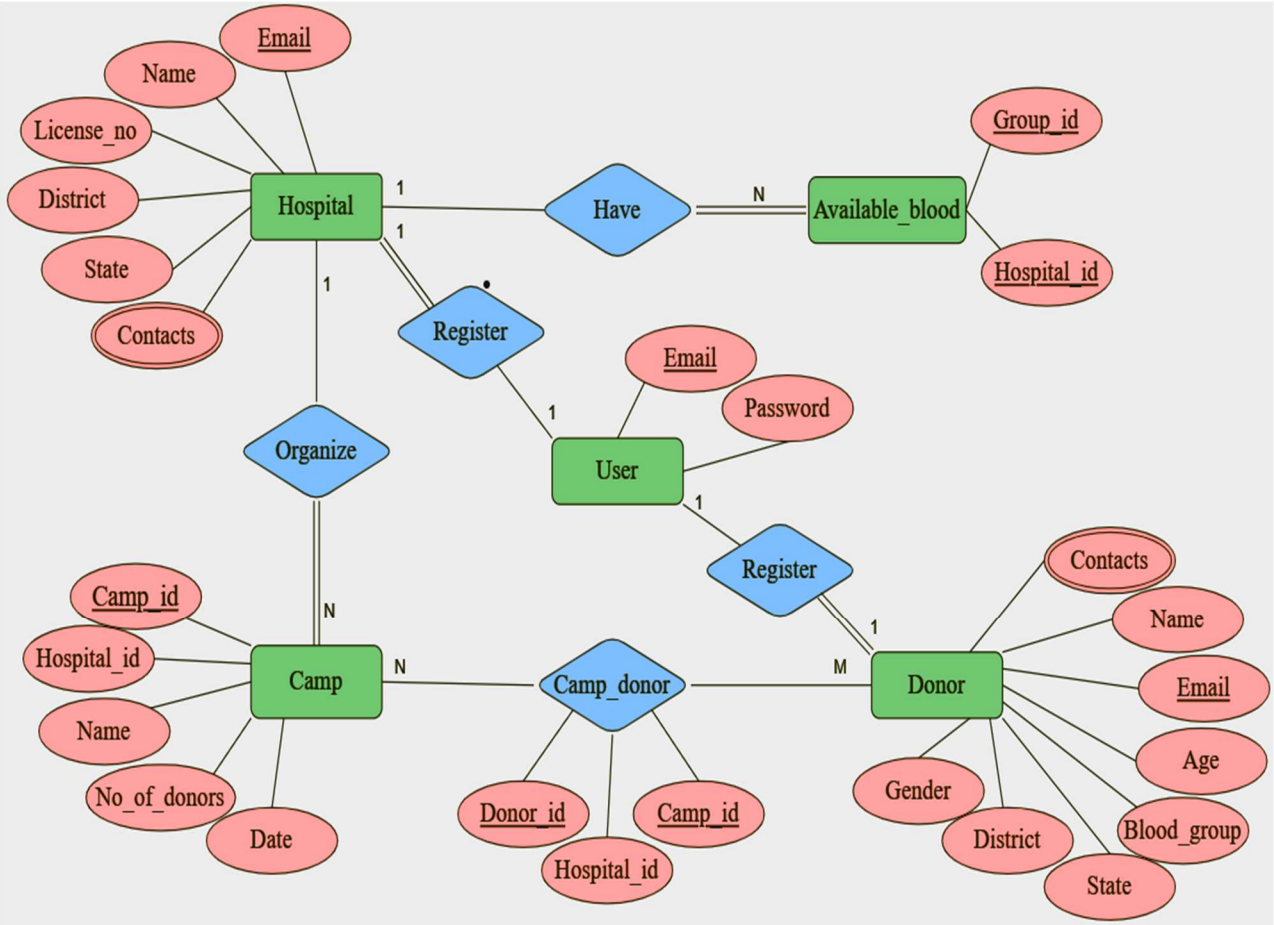
5.9 Edit Profile/Update Status of the Blood Camp:
Hospitals can update their profile and update the status of their blood camps(i.e active blood camps or past blood camps).

6 Detailed System Design Through UML Diagrams

6.1 System model using Class Diagram



6.2 E R Diagram



7 Future Scope

- **Geographical Expansion -** As the project gains traction and success within the local community, there is potential for expansion to serve a broader geographical region internationally. This expansion can facilitate even greater access to blood donations and foster a global community of donors and recipients.

- **Mobile Application -** Developing mobile applications for iOS and Android platforms can broaden the project's reach, allowing users to access the platform conveniently via smartphones and tablets, thus increasing engagement and accessibility.